

AMENDMENTS TO THE CLAIMS

1. (currently amended) A sealing device for use between a gas turbine combustor transition duct aft frame and a turbine inlet, said sealing device comprising:

a first end and a second end in spaced relation thereby forming a circumferential length;

a forward face and an aft face in spaced relation thereby forming an axial width;

an inner surface and an outer surface in spaced relation thereby forming a radial height;

a plurality of channels extending axially along said inner surface, said channels having a channel width and channel depth, said channels capable of passing a controlled amount of a cooling fluid through said sealing device to cool vane platforms at said turbine inlet; and,

wherein said sealing device is formed of abradable honeycomb having a plurality of honeycomb cells, each cell having a wall thickness and a cell width.

2. (original) The sealing device of Claim 1 wherein said channel width is at least 0.100 inches.

3. (original) The sealing device of Claim 2 wherein said channel width is at least 1.2 times greater than said channel depth.

4. (currently amended) The sealing device of Claim 1 wherein said cooling fluid is compressed air, ~~channels pass a controlled amount of compressed air to cool vane platforms at said turbine inlet.~~

5. (original) The sealing device of Claim 1 wherein said wall thickness of said honeycomb is approximately between 0.0014 inches and 0.003 inches.

6. (original) The sealing device of Claim 1 wherein said cell width is approximately between 0.062 inches and 0.125 inches.

7. (original) A gas turbine transition duct sealing system comprising:

a transition duct for transferring hot gases from a combustor to a turbine, said transition duct having an aft frame with at least one bulkhead attached to said aft frame;

a sealing device fixed to said at least one bulkhead, said sealing device comprising:

a first end and second end in spaced relation thereby forming a circumferential length;

a forward face and an aft face in spaced relation thereby forming an axial width;

an inner surface and an outer surface in spaced relation thereby forming a radial height;

a plurality of channels extending axially along said inner surface, said channels having a channel width and channel depth;

wherein said sealing device is formed of abradable honeycomb having a plurality of honeycomb cells, each cell having a wall thickness and a cell width;

a turbine inlet region having a plurality of turbine vanes, each of said turbine vanes having at least one platform region;

wherein said sealing device is in sealing contact with said bulkhead, said aft frame, and said platform region.

8. (original) The sealing system of Claim 7 wherein said channel width is at least 0.100 inches.

9. (original) The sealing system of Claim 8 wherein said channel width is at least 1.2 times greater than said channel depth.

10. (original) The sealing system of Claim 7 wherein said channels pass a controlled amount of compressed air to cool vane platforms at said turbine inlet.

11. (original) The sealing system of Claim 7 wherein said wall thickness is approximately between 0.0014 inches and 0.003 inches.

12. (original) The sealing system of Claim 7 wherein said cell width is approximately between 0.062 inches and 0.125 inches.

13. (original) The sealing system of Claim 7 wherein said sealing device is fixed to said bulkhead by a means such as brazing.